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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/006,568	12/10/2001	Koichi Hagiwara	Q67594	3469

7590 11/10/2005

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EXAMINER

KIM, CHRISTOPHER S

ART UNIT	PAPER NUMBER
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3752

DATE MAILED: 11/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/006,568	Applicant(s) HAGIWARA ET AL.	
	Examiner Christopher S. Kim	Art Unit 3752	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 September 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8, 12 and 13 is/are pending in the application.
- 4a) Of the above claim(s) 8 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 12 and 13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on August 11, 2005 has been entered.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. Claim 8 remains withdrawn.

Drawings

4. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "sensor provided on...said liquid supply passage" recited in claim 6 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure

number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

5. Claims 5-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 5 recites the limitation "said switching valve" in line 19. There is insufficient antecedent basis for this limitation in the claim.

Claim 6 recites the functional limitation "...said controller detecting supply and stop of the pressurized liquid detected by said sensor to thereby control supply and stop of the pressurized gas from said pressurized gas supply passage to said injection nozzle based on a result of a detection by said sensor..." Applicant discloses that switching valve 5 and pinch valve 9 are controlled by a controller 13. See specification,

paragraph 9. Applicant further discloses that based on sensor 20, controller 13 controls switching valve 5 and pinch valve 9. See specification, paragraph 13. There is a structural gap in the claimed invention to accomplish the claimed functional limitation, i.e. the switching valve 5 and/or pinch valve 9.

Claim 7 recites the functional limitation "...and supply and stop of powder and granular material is controlled by said controller based on the supply and stop of the pressurized liquid detected by said sensor." Applicant discloses that driving motor 11 and feeding device 7 are controlled by a controller 13. See specification, paragraph 9. Applicant further discloses that based on sensor 20, controller 13 controls drive motor 11. There is a structural gap in the claimed invention to accomplish the claimed functional limitation, i.e. the driving motor 11 and/or feeding device 7.

Claim Rejections - 35 USC § 102

6. Claims 1-4, 6, 7 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Woodward (5,312,040).

Regarding claims 1-4 and 12, Woodward discloses a cleaning and releasing device comprising: an injection nozzle 38; a pressurized liquid flow passage 32; a pressurized gas flow passage 62; operating means 36; detecting means 12; a hand valve 102; a switching valve 14; a controller 26, 28; powder and granular supply means 16.

Regarding claims 6 and 7, Woodward discloses a cleaning and releasing device comprising: a liquid tank (tank from which pump 36 draws fluid); a pump 36; a liquid

supply passage (passage between tank and pump 36); an injection nozzle 38; a pressurized liquid flow passage 32; a pressurized gas source 61; a pressurized gas flow passage 62; a sensor 12; an operating portion 102; a controller 26, 28; a powder and granular material tank 16.

Claim Rejections - 35 USC § 103

7. Claims 5 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Woodard (5,312,040) in view of Bok et al. (2,980,339) or Liska (4,238,073).

Woodward discloses a cleaning and releasing device comprising: a liquid tank (tank from which pump 36 draws fluid); a pump 36; a liquid supply passage (passage between tank and pump 36); operating means 102; detecting means 12; a powder and granular supply means 16; a controller 26, 28; a switching valve 14.

Woodward differs from what is being claimed in the relief valve and return pipe. A pressure relief valve is well known in the art as evidenced by Bok and Liska.

Bok teaches a spraying apparatus comprising a liquid tank 6; a pump 9; a relief valve 15; a return pipe 16.

Liska teaches a spraying apparatus comprising a liquid tank 26; a pump 22; a relief valve 24; a return pipe 38.

It would have been obvious to a person having ordinary skill in the art at the time of the invention to have provided a relief valve and return pipe to the device of Woodward as taught by Bok or Liska to prevent over pressurization.

Response to Arguments

8. Applicant's arguments filed August 11, 2005 have been fully considered but they are not persuasive.

Applicant argues that claim 1 sets forth an injection nozzle for mixing and then injecting a pressurized liquid and pressurized gas. That this language implies a structure capable of mixing and injecting pressurized liquid and pressurized gas. Applicant further argues that Woodward structure allows for only one of a high pressure fluid stream or a compressed gas to flow through the nozzle 118. The Examiner believes that the Applicant has improperly read Woodward. Woodward discloses, in column 7, lines 25-61, and in the flow chart of figure 5, a situation when the fluid pressure is less than 1,000 PSI and the water jetting operation is not interrupted, the nozzle 118 mixes the pressurized liquid (water) and a pressurized gas (compressed gas from 61).


Applicant argues that Woodward does not detect the supply and stop of a liquid. The Examiner disagrees with the Applicant. The detecting means 12 would detect the stop of pressurized liquid generated by an operation of the operating means 36. Pressure actuator 12 is merely a pressure sensor. If pump 36 were to stop, the pressure sensor 12 would detect the pressure drop of the liquid flow. Secondly, the detecting means 12 is for detecting supply and stop of the pressurized liquid (through nozzle 118) generated by an operation of the operating means 36.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher S. Kim whose telephone number is (571) 272-4905. The examiner can normally be reached on Monday - Thursday, 6:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Scherbel can be reached on (571) 272-4919. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Christopher S. Kim
Primary Examiner
Art Unit 3752

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